

AMENDMENTS TO THE CLAIMS

Please amend Claims 6, 8, 15 and 18 as follows:

1. (original) An optical navigation system comprising:
a coherent source for providing a first portion of a beam comprising a first wavelength and a second portion of a beam comprising a second wavelength onto a target surface;
a first detector for receiving a first reflection of said first portion of said beam from said target surface; and
a second detector for receiving a second reflection of said second portion of said beam from said target surface to allow the determination of the position of said first and said second detector with respect to said target surface from signals generated by said first and second detectors in response to said first and second reflections.
2. (original) The system of Claim 1 wherein said second reflection is comprised of a speckle pattern.
3. (original) The system of Claim 1 where said coherent source comprises a VCSEL.
4. (original) The system of Claim 1 further comprising a wavelength filter for passing said second wavelength and disposed with respect to said second detector such that said second detector receives only said second reflection.
5. (original) The system of Claim 1 further comprising a focus lens positioned between said coherent source and said target surface.

6. (currently amended) The system of Claim 1 further comprising a collimating lens positioned between said ~~[[first]]~~ light source and said target surface.

7. (original) The system of Claim 1 further comprising a lightpipe disposed between said target surface and said second detector to increase the collection efficiency of said second reflection.

8. (currently amended) The system of Claim 1 further comprises a collection lens disposed between said target surface and said second detector to increase the collection efficiency of said second reflection.

9. (original) The system of Claim 1 further comprising a third detector to receive said second reflection.

10. (original) The system of Claim 1 wherein said second detector comprises detector strips alternating with non detector strips.

11. (original) An optical navigation system comprising:
a coherent source for providing a first portion of a beam comprising a first wavelength and a second portion of a beam comprising a second wavelength onto a target surface;

a first detector for receiving a first reflection of said first portion of said beam from said target surface; and

a second detector for receiving a second reflection of said second portion of said beam from said target surface to allow the determination of the position of said first and said second detector with respect to said target surface from signals generated by said first and second detectors in response to said first and second reflections.

12. (original) The system of Claim 11 wherein said coherent source comprises a first and second narrow band wavelength filter to produce said first and second portions of said beam.

13. (original) The system of Claim 11 wherein said coherent source comprises a VCSEL.

14. (original) The system of Claim 11 wherein said second reflection is comprised of a speckle pattern.

15. (currently amended) The system of Claim 11 further comprising a focusing lens operable to focus said second portion of said beam [[at position]] positioned between said coherent and said target surface.

16. (original) The system of Claim 11 further comprising a collimating lens operable to collimate said first portion of said beam.

17. (original) The system of Claim 11 further comprising a lightpipe disposed between said target surface and said second detector to increase the collection efficiency of said second reflection.

18. (currently amended) The system of Claim 11 further comprising a collection lens disposed between said target surface and said second detector to increase the collection efficiency of said second reflection.

19. (original) The system of Claim 1 further comprising a third narrowband wavelength filter for passing said second wavelength and

disposed with respect to said second detector such that said second detector receives only said second reflection.

20. (original) The system of Claim 11 further comprising a third detector to receive said second reflection.

21. (original) An optical navigation system comprising:
a coherent source for providing a light beam incident onto a target surface;
a first detector for receiving a first portion of a reflection of said light beam from said target surface; and
a second detector for receiving a second portion of said reflection of said beam from said target surface to allow the determination of the position of said first and said second detector with respect to said target surface from signals generated by said first and second detectors in response to said first and second reflections.

22. (original) The optical navigation system of Claim 21 wherein said coherent source is positioned at an angle between five and twenty degrees with respect to said target surface.

23. (original) The optical navigation system of Claim 21 further comprising an aperture positioned between said second detector and said target surface to limit the field of view of said second detector.

24. (original) The optical navigation system of Claim 21 wherein said first detector is a correlation detector.